

out that claim 12 recites "a propellant that comprises a hydroxy-terminated caprolactone ether binder and at least one or more solid compounds" using open language, "that comprises," that is well understood to be open to the inclusion of elements not recited in the claim. Moreover, the description of the propellant at page 2, line 30 to page 3, line 1 of the Specification should be more than adequate to provide a suitably definite teaching to one of ordinary skill in the art. Therefore, the Applicants ask that the Examiner withdraw this ground of rejection. The Examiner also asserted that the recitation of "poly(tetramethylene ether)" in claim 12 lacks an antecedent basis. The Applicants point out, however, that the term in question is not prefaced in the claim with a definite article. Moreover, a person of ordinary skill in the art would be able to understand the claim based on the description of this element at page 7, lines 19-22 in the Specification. Therefore, they respectfully submit that there is no antecedent basis issue with this term and ask the Examiner to either withdraw this ground of rejection or provide a more definitive basis for the rejection. Regarding claims 15-17, the Applicants point out that the term "HTCE" is defined in the specification on page 3, lines 2-3. Therefore, they respectfully submit there is sufficient antecedent basis for the use of "HTCE" in the claims. The remaining grounds for the rejection of claims 15-17 are addressed by the amendments to those claims. Having addressed all the Examiner's comments, the Applicants ask the Examiner to reconsider and withdraw the rejection.

The Examiner rejected claims 12-17 under 35 U.S.C. § 103 as being unpatentable over O'Neill et al. (US 4,018,636). Claims 12-17, as amended, recite a method of disposing of a solid rocket propellant that comprises a hydroxy-terminated caprolactone ether (HTCE) binder and at least one or more solid compounds dispersed in the binder. The specification teaches at page 3, lines 2-3 that HTCE is a linear block co-polymer of caprolactone and tetramethylene ether. O'Neill et al. teach the use of a soluble binder for plastic bonded explosives and propellants, but do not appear to teach all the elements of claims 12-17. In particular, O'Neill et al. do not appear to teach or suggest the use of a HTCE binder. The Examiner appears to have tacitly admitted that O'Neill et al. standing alone does not teach or suggest all the elements of claims 12-17, as amended, because he did not point to any such specific teachings in O'Neill et al. Rather, the Examiner attempted to combine O'Neill et al. with

unspecified teachings from unidentified sources that the Examiner asserted are "well known" or "notoriously well known". Even then, the Examiner did not explain how the combination of O'Neill et al. with the unspecified teachings from unidentified sources would lead one skilled in the art to know to use a HTCE binder as recited in claims 12-17. The Applicants respectfully submit, therefore, that without specifying the teachings and sources that the Examiner asserts are "well known" or "notoriously well known", and without specifying how such teaching can be combined with O'Neill et al to teach the use of a HTCE binder as recited in claims 12-17, the Examiner has failed to state a prima facie case of obviousness. Therefore, the Applicants ask the Examiner to reconsider and withdraw the rejection.

The Applicants respectfully ask the Examiner to enter the amendments, reconsider and withdraw the rejections, and pass the application, as amended, to issue.

Respectfully submitted,

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Attachment A (Amended Claims Shown in Marked-up Form)

13. (Amended) The method of claim 12, wherein the solids are [be] recovered and recycled.
15. (Amended) The method of claim 12, wherein [the] at least one solid compound is an oxidizer that comprises ammonium nitrate, ammonium dinitramide, cyclotrimethylene trinitramide, or cyclotetramethylene tetranitramine and the propellant further comprises a plasticizer that comprises n-butyl nitrateoethyl nitramine, trimethylol ethane trinitrate, or triethyleneglycol dinitrate, wherein the propellant comprises about 4 weight % to about 10 weight % HTCE binder, about 45 weight % to about 75 weight % oxidizer, and about 6 weight % to about 18 weight % plasticizer.
16. (Amended) The method of claim 12, wherein [the] at least one solid compound is an oxidizer that comprises ammonium perchlorate and the propellant further comprises a plasticizer that comprises n-butyl nitrateoethyl nitramine, trimethylol ethane trinitrate, triethyleneglycol dinitrate, dioctyl adipate, or isodecyl pelargonate wherein the propellant comprises about 4 weight % to about 10 weight % HTCE binder, about 65 weight % to about 86 weight % oxidizer, and about 5 weight % to about 12 weight % plasticizer.
17. (Amended) The [propellant] method of claim 12, wherein [the] at least one solid compound is an oxidizer that comprises ammonium perchlorate, ammonium nitrate, ammonium dinitramide, cyclotrimethylene trinitramide, or cyclotetramethylene tetranitramine and the propellant further comprises an aluminum or boron metal fuel and a plasticizer that comprises trimethylol ethane trinitrate, triethyleneglycol dinitrate, dioctyl adipate, or isodecyl pelargonate wherein the propellant comprises about 4 weight % to about 10 weight % HTCE binder, about 45 weight % to about 75 weight % oxidizer, about 15 weight % to about 24 weight % metal fuel and about 5 weight % to about 12 weight % plasticizer.